

20U612

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Name:

Reg.No:

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2023

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U CHE6 B10 - ORGANIC CHEMISTRY - III

(Chemistry - Core Course)

(2019 Admission onwards)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. What is bathochromic shift?
2. What is the essential difference between adsorption column chromatography and partition column chromatography?
3. How can glucose be converted to gluconic acid?
4. Name and formulate the product obtained when glucose reacts with hydroxylamine.
5. Name the purine bases found in RNA.
6. Give two examples for neutral aminoacids.
7. What are lipids?
8. Name an important source and disease caused by the deficiency of vitamin K.
9. What is meant by vulcanization? Explain with example.
10. Give the uses of citral.
11. What are sigmatropic rearrangements? Give an example.
12. Explain why in [4 + 2] cycloaddition, diene is activated by electron-donor substituents and dienophile by electron-withdrawing substituents.

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

Answer *all* questions. Each question carries 5 marks.

13. Comment on the characteristic bands observed in the IR spectra of primary amines.
14. Discuss the distinguish features of the IR spectra of primary, secondary and tertiary amides.
15. Discuss the chemistry behind Molisch's test in carbohydrate chemistry.

16. Discuss the Strecker synthesis of amino acids with the help of an example.
17. Explain the classification of steroid hormones with suitable examples.
18. Give the source, structure, and uses of geraniol.
19. Explain with equations the role of pericyclic reactions in synthesizing vitamin D in the body.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any *one* question. The question carries 10 marks.

20. What is GLC? Explain its principle and how it is carried out.
21. (a) Explain the action of phenylhydrazine on (i) glucose (ii) fructose
(b) How is glucose converted to fructose? Explain with suitable equation.

(1 × 10 = 10 Marks)
